

REMARKS

A. Introduction

Applicant would like to thank the Examiner for the courtesy extended during the interview conducted on September 17, 2008. The interview clarified several issues and enabled

- 5 Applicant to better focus the present Amendment to expedite allowance of the present application.

Applicant respectfully requests reconsideration and allowance of this application. Claims 1, 2, 5-10, 13-16 and 18-24 are pending in the application. Applicant respectfully disagrees with the Examiner's reasons for rejecting the claims. Nevertheless, Applicant has amended Claims 1, 10 5, 9, 10, 13 and 18 to further clarify the claim scope. Applicant's amendments have been made for the purpose of expediting further prosecution, and do not in any way indicate Applicant's agreement with the rationale behind the Examiner's rejections. Applicant reserves the right to pursue the original claims, and other claims, in continuing applications.

Applicant's claim amendments are shown on the pages above following the heading 15 AMENDMENTS TO THE CLAIMS. On these pages, the deletions are ~~struckthrough~~ or [[double bracketed]] while the insertions are underlined.

Applicant submits that this application is now in condition for allowance, and Applicant earnestly requests such action. Below, Applicant addresses each of the Examiner's reasons for rejection.

20 B. All Claims are Patentable Over the Cited References Kuras - § 102 Rejections

The Examiner rejected Claims 1, 2, 7-10, 15, 16, 18, 19 and 22-24 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,698,316 to Kuras et al. ("Kuras"). Applicant respectfully submits that these claims, as amended, are allowable over Kuras.

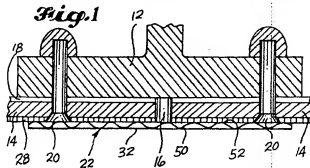
25 An anticipation rejection under § 102 requires that "every element of the claimed invention must be identically shown in a single reference." *In re Bond*, 910 F.2d 831 (Fed. Cir. 1990). "There must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention." *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d 1565 (Fed. Cir. 1991).

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Claims 1, 2, 7 and 8

Claim 1 recites apparatus for protecting a composite-body aircraft against damage from lightning strikes. The apparatus comprises an aircraft body including a plurality of composite panels. A first plurality of electrically conductive splice plates extend along junctions between adjacent ones of the composite panels at respective edges of the adjacent composite panels. A second plurality of electrically conductive splice plates extend along the junctions between adjacent ones of the composite panels at respective edges of the adjacent composite panels. The first plurality of electrically conductive splice plates abut exterior surfaces of the composite panels, and the second plurality of electrically conductive splice plates abut interior surfaces of the composite panels. The apparatus further comprises a plurality of electrically conductive straps, and a plurality of electrically conductive fasteners. The straps and the fasteners mechanically and electrically couple adjacent ends of the splice plates to one another such that the splice plates form a continuous, electrically conductive grid about the aircraft body.

By contrast, Kuras discloses an electrically conductive bridge formed over a non-conductive joint between two or more adjacent electrically conductive panels. With reference to Figure 1 of Kuras, two composite panels 14 are positioned adjacent one another with a gap 16 between. Electromagnetic shielding material 28 overlies the composite panels. The electromagnetic shielding material comprises a copper mesh. An electrically conductive bridge 22 overlies the junction of the composite panels. The bridge comprises heavier weight expanded copper mesh 32. See Kuras column 5, line 63 through column 6, line 20.



Kuras does not teach or suggest at least a first plurality of electrically conductive splice plates extending along junctions between adjacent composite panels at respective edges of the adjacent composite panels, and a second plurality of electrically conductive splice plates extending along the junctions between adjacent composite panels at respective edges of the

adjacent composite panels, wherein the first plurality of electrically conductive splice plates abut exterior surfaces of the composite panels, and the second plurality of electrically conductive splice plates abut interior surfaces of the composite panels. Rather, Kuras discloses that an electrically isolating fiberglass layer 18 abuts interior surfaces of the composite panels 14.

5 Kuras, 4:55-5:3, Fig. 1.¹

Since Kuras does not teach or suggest apparatus for protecting a composite-body aircraft against damage from lightning strikes as recited in Claim 1, Applicant respectfully submits that independent Claim 1 is allowable over Kuras. Dependent Claims 2, 7 and 8, which include the features of independent Claim 1, recite additional features of particular advantage and utility.

10 Moreover, these claims are allowable for substantially the same reasons presented above. Kuras does not teach or suggest all of the limitations of Claim 1, let alone the unique combinations of features recited by Claims 2, 7 and 8. Accordingly, Applicant respectfully requests that the Examiner withdraw these rejections.

Claims 9, 10, 15 and 16

15 Claim 9 recites a method for protecting a composite-body aircraft against damage from lightning strikes. The method comprises coupling adjacent composite panels on an aircraft body to one another at respective edges of the adjacent composite panels using electrically conductive splice plates, electrically conductive straps and electrically conductive fasteners. The straps and the fasteners mechanically and electrically couple adjacent ends of the splice plates to one
20 another such that the splice plates form a continuous, electrically conductive grid about the aircraft body. A first plurality of the electrically conductive splice plates extend along junctions between the adjacent composite panels and abut exterior surfaces of the composite panels. A second plurality of the electrically conductive splice plates extend along the junctions between the adjacent composite panels and abut interior surfaces of the composite panels.

25 Similarly to Claim 1, Claim 9 recites first and second pluralities of electrically conductive splice plates, wherein the first plurality extend along junctions between the adjacent composite panels and abut exterior surfaces of the composite panels and the second plurality extend along junctions between the adjacent composite panels and abut interior surfaces of the composite panels. These limitations are similar to those of Claim 1 outlined above. Accordingly, Applicant

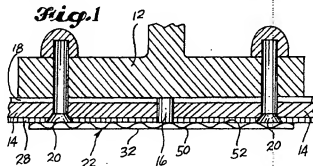
¹ References to Kuras herein follow the format of "column:line numbers." For example, the reference to 4:55-5:3 refers to Kuras at column 4, line 55 through column 5, line 3.

respectfully submits that Claim 9 is allowable over Kuras for substantially the same reasons as Claim 1. Dependent Claims 10, 15 and 16, which include the features of independent Claim 9, recite additional features of particular advantage and utility. Moreover, these claims are allowable for substantially the same reasons presented above. Kuras does not teach or suggest all of the limitations of Claim 9, let alone the unique combinations of features recited by Claims 10 and 13-16. Accordingly, Applicant respectfully requests that the Examiner withdraw these rejections.

Claims 18, 19 and 22-24

Claim 18 recites an aircraft body comprising a plurality of composite panels. Adjacent pairs of the composite panels define a V-shaped groove therebetween. The aircraft body further comprises a plurality of electrically conductive splice plates disposed within the grooves such that an exterior surface of each splice plate is flush with exterior surfaces of the adjacent pair of composite panels. Adjacent ends of the splice plates are mechanically and electrically coupled to one another such that the splice plates form a continuous, electrically conductive grid about the aircraft body.

By contrast, Kuras discloses an electrically conductive bridge formed over a non-conductive joint between two or more adjacent electrically conductive panels. With reference to Figure 1 of Kuras, two composite panels 14 are positioned adjacent one another with a gap 16 between. Electromagnetic shielding material 28 overlies the composite panels. The electromagnetic shielding material comprises a copper mesh. An electrically conductive bridge 22 overlies the junction of the composite panels. The bridge comprises heavier weight expanded copper mesh 32. See Kuras column 5, line 63 through column 6, line 20.



Kuras does not teach or suggest at least adjacent pairs of composite panels defining a V-shaped groove therebetween. In the Office action, the Examiner identified the gap 16 in Figure 1

of Kuras as a groove. Office Action ("OA"), pg. 3. While Applicant respectfully disagrees with the Examiner's position, nonetheless Applicant has amended Claim 18 to recite that the groove is V-shaped. The gap 16 of Kuras clearly is not V-shaped.

Kuras further does not teach or suggest at least a plurality of electrically conductive
5 splice plates disposed within the grooves such that an exterior surface of each splice plate is flush with exterior surfaces of the adjacent pair of composite panels. In the Office action, the Examiner identified the copper mesh electromagnetic shield 28 in Figure 1 of Kuras as a splice plate. OA, pg. 3. While Applicant respectfully disagrees with the Examiner's position, nonetheless Applicant has amended Claim 18 to recite that the splice plates disposed within the
10 grooves such that an exterior surface of each splice plate is flush with exterior surfaces of the adjacent pair of composite panels. The electromagnetic shield 28 of Kuras clearly is not disposed within a groove such that an exterior surface of the electromagnetic shield 28 is flush with exterior surfaces of the adjacent pair of composite panels 14. To the contrary, the electromagnetic shield 28 is disposed on top of the composite panels 14.

15 Kuras - § 103 Rejections

The Examiner rejected Claims 5, 13 and 20 under 35 U.S.C. § 103(a) as being unpatentable over Kuras. Claim 5 depends from Claim 1, and therefore includes all of the limitations of Claim 1. Claim 13 depends from Claim 9, and therefore includes all of the limitations of Claim 9. Claim 20 depends from Claim 18, and therefore includes all of the
20 limitations of Claim 18. Claims 1, 9 and 18 are allowable over Kuras for the reasons provided above. Claims 5, 13 and 20 are therefore also allowable over Kuras for at least the same reasons provided above, and on their own merit. Applicant respectfully requests that the Examiner withdraw these rejections.

Kuras in view of Sankrithi

25 The Examiner rejected Claims 6, 14 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Kuras in view of U.S. Patent No. 6,666,406 to Sankrithi et al. ("Sankrithi"). Claim 6 depends from Claim 1, and therefore includes all of the limitations of Claim 1. Claim 14 depends from Claim 9, and therefore includes all of the limitations of Claim 9. Claim 21 depends from Claim 18, and therefore includes all of the limitations of Claim 18. Claims 1, 9
30 and 18 are allowable over Kuras for the reasons provided above. Claims 1, 9 and 18 are also allowable over Kuras in view of Sankrithi, because Sankrithi neither teaches nor suggests the

limitations of Claims 1, 9 and 18 that are lacking in Kuras. Accordingly, Claims 6, 14 and 21 are allowable for at least the same reasons provided above with respect to Claims 1, 9 and 18, and Applicant respectfully requests that the Examiner withdraw these rejections.

5 **CONCLUSION**

For the reasons presented above, Applicant respectfully submits that this application, as amended, is in condition for allowance. If there is any further hindrance to allowance of the pending claims, Applicant invites the Examiner to contact the undersigned.

10 Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1159.

15 Date: October 7, 2008

Respectfully submitted,

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Scott Loras Murray
Reg. No.: 53,360
Attorney for Applicant
Tel.: (949) 955-1920